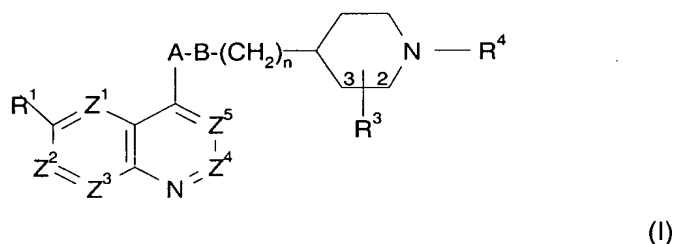


Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method of treatment of bacterial infections caused by *S.aureus*, *E.faecalis*, *M.catarrhalis*, or *S.pneumoniae* in mammals, which method comprises the administration to a mammal in need of such treatment of an effective amount of a compound of formula (I) or a pharmaceutically acceptable derivative thereof:



wherein:

one of Z^1 , Z^2 , Z^3 , Z^4 and Z^5 is N or CR^{1a} and the remainder are CH;

R^1 is selected from hydroxy; (C₁₋₆) alkoxy optionally substituted by (C₁₋₆)alkoxy, amino, piperidyl, guanidino or amidino optionally N-substituted by one or two (C₁₋₆)alkyl, acyl or (C₁₋₆)alkylsulphonyl groups, NH₂CO, hydroxy, thiol, (C₁₋₆)alkylthio, heterocyclylthio, heterocycloxy, arylthio, aryloxy, acylthio, acyloxy or (C₁₋₆)alkylsulphonyloxy; (C₁₋₆)alkoxy-substituted (C₁₋₆)alkyl; halogen; (C₁₋₆)alkyl; (C₁₋₆)alkylthio; trifluoromethyl; nitro; azido; acyl; acyloxy; acylthio; (C₁₋₆)alkylsulphonyl; (C₁₋₆)alkylsulphoxide; arylsulphonyl; arylsulphoxide or an amino, piperidyl, guanidino or amidino group optionally N-substituted by one or two (C₁₋₆)alkyl, acyl or (C₁₋₆)alkylsulphonyl groups, or when one of Z^1 , Z^2 , Z^3 , Z^4 and Z^5 is N, R^1 may instead be hydrogen;

R^{1a} is selected from hydrogen and the groups listed above for R^1 ;

R³ is in the 2- or 3-position and is:

carboxy; (C₁₋₆)alkoxycarbonyl; aminocarbonyl wherein the amino group is optionally substituted by hydroxy, (C₁₋₆)alkyl, hydroxy (C₁₋₆)alkyl, aminocarbonyl(C₁₋₆)alkyl, (C₂₋₆)alkenyl, (C₁₋₆)alkylsulphonyl, trifluoromethylsulphonyl, (C₁₋₆)alkenylsulphonyl, (C₁₋₆)alkoxycarbonyl, (C₁₋₆)alkylcarbonyl, (C₂₋₆)alkenyloxycarbonyl or (C₂₋₆)alkenylcarbonyl and optionally further substituted by (C₁₋₆)alkyl, hydroxy (C₁₋₆)alkyl, aminocarbonyl(C₁₋₆)alkyl or (C₂₋₆)alkenyl; cyano; tetrazolyl; 2-oxo-oxazolidinyl optionally substituted by R¹⁰; 3-hydroxy-3-cyclobutene-1,2-dione-4-yl; 2,4-thiazolidinedione-5-yl; tetrazol-5-ylaminocarbonyl; 1,2,4-triazol-5-yl optionally substituted by R¹⁰; or 5-oxo-1,2,4-oxadiazol-3-yl; or

R³ is in the 2- or 3-position and is (C₁₋₄)alkyl or ethenyl substituted with any of the groups listed above for R³ and 0 to 2 groups R¹² independently selected from:

thiol; halogen; (C₁₋₆)alkylthio; trifluoromethyl; azido; (C₁₋₆)alkoxycarbonyl; (C₁₋₆)alkylcarbonyl; (C₂₋₆)alkenyloxycarbonyl; (C₂₋₆)alkenylcarbonyl; hydroxy optionally substituted by (C₁₋₆)alkyl, (C₂₋₆)alkenyl, (C₁₋₆)alkoxycarbonyl, (C₁₋₆)alkylcarbonyl, (C₂₋₆)alkenyloxycarbonyl, (C₂₋₆)alkenylcarbonyl or aminocarbonyl wherein the amino group is optionally substituted by (C₁₋₆)alkyl, (C₂₋₆)alkenyl, (C₁₋₆)alkylcarbonyl or (C₂₋₆)alkenylcarbonyl; amino optionally mono- or disubstituted by (C₁₋₆)alkoxycarbonyl, (C₁₋₆)alkylcarbonyl, (C₂₋₆)alkenyloxycarbonyl, (C₂₋₆)alkenylcarbonyl, (C₁₋₆)alkyl, (C₂₋₆)alkenyl, (C₁₋₆)alkylsulphonyl, (C₂₋₆)alkenylsulphonyl or aminocarbonyl wherein the amino group is optionally substituted by (C₁₋₆)alkyl or (C₂₋₆)alkenyl; aminocarbonyl wherein the amino group is optionally substituted by (C₁₋₆)alkyl, hydroxy (C₁₋₆)alkyl, aminocarbonyl(C₁₋₆)alkyl, (C₂₋₆)alkenyl, (C₁₋₆)alkoxycarbonyl, (C₁₋₆)alkylcarbonyl, (C₂₋₆)alkenyloxycarbonyl or (C₂₋₆)alkenylcarbonyl and optionally further substituted by (C₁₋₆)alkyl, hydroxy (C₁₋₆)alkyl, aminocarbonyl(C₁₋₆)alkyl or (C₂₋₆)alkenyl; oxo; (C₁₋₆)alkylsulphonyl; (C₂₋₆)alkenylsulphonyl; or (C₁₋₆)aminosulphonyl wherein the amino group is optionally substituted by (C₁₋₆)alkyl or (C₂₋₆)alkenyl; provided that when R³ is disubstituted with hydroxy or amino and carboxy containing substituents these may optionally together form a cyclic ester or amide linkage, respectively;

and provided that R³ is other than (C₁₋₄)alkyl or ethenyl substituted by (C₁₋₆)alkoxycarbonyl or aminocarbonyl optionally substituted by (C₁₋₆)alkyl, (C₂₋₆)alkenyl, (C₁₋₆)alkoxycarbonyl, (C₁₋₆)alkylcarbonyl, (C₂₋₆)alkenyloxycarbonyl or

(C₂₋₆)alkenylcarbonyl and optionally further substituted by (C₁₋₆)alkyl, hydroxy (C₁₋₆)alkyl, aminocarbonyl(C₁₋₆)alkyl or (C₂₋₆)alkenyl and 0 to 2 groups R¹²;

wherein R¹⁰ is selected from (C₁₋₄)alkyl; (C₂₋₄)alkenyl; aryl; a group R¹² as defined above; carboxy; aminocarbonyl wherein the amino group is optionally substituted by hydroxy, (C₁₋₆)alkyl, (C₂₋₆)alkenyl, (C₁₋₆)alkylsulphonyl, trifluoromethylsulphonyl, (C₁₋₆)alkenylsulphonyl, (C₁₋₆)alkoxycarbonyl, (C₁₋₆)alkylcarbonyl, (C₂₋₆)alkenyloxycarbonyl or (C₂₋₆)alkenylcarbonyl and optionally further substituted by (C₁₋₆)alkyl or (C₂₋₆)alkenyl; cyano; or tetrazolyl;

R⁴ is a group -CH₂-R⁵ in which R⁵ is selected from:

(C₃₋₁₂)alkyl; hydroxy (C₃₋₁₂)alkyl; (C₁₋₁₂)alkoxy(C₃₋₁₂)alkyl; (C₁₋₁₂)alkanoyloxy(C₃₋₁₂)alkyl; (C₃₋₆)cycloalkyl(C₃₋₁₂)alkyl; hydroxy -, (C₁₋₁₂)alkoxy- or (C₁₋₁₂)alkanoyloxy-(C₃₋₆)cycloalkyl(C₃₋₁₂)alkyl; cyano(C₃₋₁₂)alkyl; (C₂₋₁₂)alkenyl; (C₂₋₁₂)alkynyl; tetrahydrofuryl; mono- or di-(C₁₋₁₂)alkylamino(C₃₋₁₂)alkyl; acylamino(C₃₋₁₂)alkyl; (C₁₋₁₂)alkyl- or acyl-aminocarbonyl(C₃₋₁₂)alkyl; mono- or di- (C₁₋₁₂)alkylamino(hydroxy) (C₃₋₁₂)alkyl; optionally substituted phenyl(C₁₋₂)alkyl, phenoxy(C₁₋₂)alkyl or phenyl(hydroxy)(C₁₋₂)alkyl; optionally substituted diphenyl(C₁₋₂)alkyl; optionally substituted phenyl(C₂₋₃)alkenyl; optionally substituted benzoyl or benzoylmethyl; optionally substituted ~~heteroaryl(C₁₋₂)alkyl; and heteroaryl(C₁₋₂)alkyl; and~~ optionally substituted heteroaroyl or heteroaroylmethyl;

n is 0, 1 or 2;

either A-B is NHC(O)NH or NHC(O)O, or

A is NR¹¹, O, S(O)_x or CR⁶R⁷ and B is NR¹¹, O, S(O)_x or CR⁸R⁹ where x is 0, 1 or 2 and wherein:

~~each of R⁶, R⁷, R⁸ and R⁹ and R⁷, R⁸ and R⁹~~ is independently selected from: H; thiol; (C₁₋₆)alkylthio; halo; trifluoromethyl; azido; (C₁₋₆)alkyl; (C₂₋₆)alkenyl; (C₁₋₆)alkoxycarbonyl; (C₁₋₆)alkylcarbonyl; (C₂₋₆)alkenyloxycarbonyl; (C₂₋₆)alkenylcarbonyl; hydroxy, amino or aminocarbonyl optionally substituted as for corresponding substituents in R³; (C₁₋₆)alkylsulphonyl; (C₂₋₆)alkenylsulphonyl; or (C₁₋₆)aminosulphonyl wherein the amino group is optionally substituted by (C₁₋₆)alkyl or (C₁₋₆)alkenyl;

or R⁶ and R⁸ together represent a bond and R⁷ and R⁹ are as above defined;
or R⁶ and R⁸ together represent -O- and R⁷ and R⁹ are both hydrogen;
or R⁶ and R⁷ or R⁸ and R⁹ together represent oxo;
and each R¹¹ is independently H, trifluoromethyl, (C₁₋₆)alkyl, (C₁₋₆)alkenyl, (C₁₋₆)alkoxycarbonyl, (C₁₋₆)alkylcarbonyl, aminocarbonyl wherein the amino group is optionally substituted by (C₁₋₆)alkoxycarbonyl, (C₁₋₆)alkylcarbonyl, (C₁₋₆)alkenyloxycarbonyl, (C₂₋₆)alkenylcarbonyl, (C₁₋₆)alkyl or (C₁₋₆)alkenyl and optionally further substituted by (C₁₋₆)alkyl or (C₁₋₆)alkenyl;
provided that A and B cannot both be selected from NR¹¹, O and S(O)_x and when one of A and B is CO the other is not CO, O or S(O)_x.

Claims 2-11 (Cancelled).

12. (Original) A pharmaceutical composition for use in the treatment of bacterial infections in mammals comprising a compound of formula (I) as defined in claim 1, or a pharmaceutically acceptable derivative thereof, and a pharmaceutically acceptable carrier.

13. (Cancelled).

14. (Previously presented) A method according to claim 1 which comprises administering a compound of formula (I) of claim 1 or a pharmaceutically acceptable derivative thereof wherein R³ is other than (C₁₋₆)alkoxycarbonyl; optionally substituted aminocarbonyl, CN or COOH.

15. (Currently amended) A method according to claim 1 which comprises administering a compound of formula (I) of claim 1 or a pharmaceutically acceptable derivative thereof in which Z⁵ is CH or N and Z¹-Z⁴ are each CH.

16. (Currently amended) A method according to claim 1 which comprises administering a compound of formula (I) of claim 1 or a pharmaceutically acceptable derivative thereof in which R¹ is methoxy, amino- or guanidino-(C₃₋₅)alkyloxy, guanidino(C₃₋₅)alkyloxy, piperidyl(C₃₋₅)alkyloxy, nitro or fluoro, and R^{1a} is hydrogen.

17. (Currently amended) A method according to claim 1 which comprises administering a compound of formula (I) of claim 1 or a pharmaceutically

acceptable derivative thereof in which R³ is in the 3-position and is CH₂CO₂H or 2-oxo-oxazolidinyl.

18. (Currently amended) A method according to claim 1 which comprises administering a compound of formula (I) of claim 1 or a pharmaceutically acceptable derivative thereof in which AB(CH₂)_n is (CH₂)₃.

19. (Currently amended) A method according to claim 1 which comprises administering a compound of formula (I) of claim 1 or a pharmaceutically acceptable derivative thereof in which R⁴ is (C₅₋₁₀)alkyl, unsubstituted phenyl(C₂₋₃)alkyl or unsubstituted phenyl(C₃₋₄)alkenyl.

20. (Currently amended) A method according to claim 1 which comprises administering a compound of formula (I) of claim 1 or a pharmaceutically acceptable derivative thereof in which Z⁵ is CH or N and Z¹-Z⁴ are each CH; R¹ is methoxy, amino- or guanidino-(C₃₋₅)alkyloxy, guanidino(C₃₋₅)alkyloxy, piperidyl(C₃₋₅)alkyloxy, nitro or fluoro, and R^{1a} is hydrogen; R³ is in the 3-position and is CH₂CO₂H or 2-oxo-oxazolidinyl; AB(CH₂)_n is (CH₂)₃; and R⁴ is (C₅₋₁₀)alkyl, unsubstituted phenyl(C₂₋₃)alkyl or unsubstituted phenyl(C₃₋₄)alkenyl.

21. (Currently amended) A method according to claim 1 which comprises administering a compound which is:

[3R, 4R]-1-Heptyl-3-(1-(R or S)-hydroxy-2-cyanoethyl)-4-[3-(6-methoxyquinolin-4-yl)propyl]piperidine;

[3R, 4R]-1-Heptyl-3-(2-(R or S)-oxo-oxazolidin-5-yl)-4-[3-(6-methoxyquinolin-4-yl)propyl] piperidine;

[3R, 4R]-1-Heptyl-3-(2-cyanoethyl)-4-[3-(6-methoxyquinolin-4-yl) propyl] piperidine;

[3R, 4R]-1-Heptyl-3-(3-carboxyethyl)-4-[3-(6-methoxyquinolin-4-yl) propyl] piperidine;

[3R, 4R]-1-Heptyl-3-carboxy-4-[3-(6-methoxyquinolin-4-yl) propyl] piperidine;

[3R, 4R]-1-Heptyl-3-(carboxymethyl)-4-[3-(6-methoxyquinolin-4-yl) propyl] piperidine;

[3R, 4R]-1-Heptyl-3-(1-(R or S)-hydroxy-2-carboxyethyl)-4-[3-(6-methoxyquinolin-4-yl)propyl]piperidine;

[3R, 4R]-1-Heptyl-3-(2-(E)-carboxyethenyl)-4-[3-(6-methoxyquinolin-4-yl)propyl]piperidine;

N-(cis-3-(R/S)-Ethoxycarbonyl-1-heptyl-4-(S/R)-piperidyl)-N'-(6-methoxyquinolin-4-yl)urea;

N-(cis-3-(R/S)-Ethoxycarbonyl-1-heptyl-4-(S/R)-piperidyl)-N'-(6-methoxy-[1,5]-naphthyridin-4-yl)urea;

N-(cis-3-(R/S)-Aminocarbonyl-1-heptyl-4-(S/R)-piperidyl)-N'-(6-methoxy-[1,5]-naphthyridin-4-yl)urea;

[3R, 4R]-1-Heptyl-4-[3-(R/S)-hydroxy-3-(6-methoxyquinolin-4-yl)propyl]-3-(2-(R or S)-oxo-oxazolidin-5-yl)-piperidine;

[3R, 4R]-1-Heptyl-3-cyanomethyl-4-[3-(R/S)-hydroxy-3-(6-methoxyquinolin-4-yl)propyl]piperidine;

[3R, 4R]-1-Heptyl-3-cyanomethyl-4-(2-(R)-hydroxy-3-(6-methoxyquinolin-4-yl)propyl)piperidine;

N-(cis-3-(R/S)-Carboxy-1-heptyl-4-(S/R)-piperidyl)-N'-(6-methoxyquinolin-4-yl)urea;

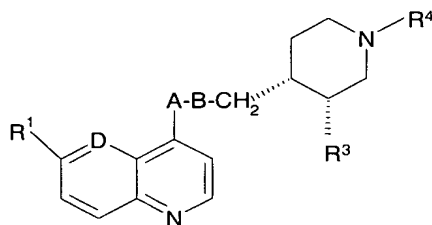
cis-3-(R/S)-Ethoxycarbonyl-1-heptyl-4-(S/R)-(6-methoxyquinolin-4-

yl)aminocarbonyl-oxypiperidine;

cis-3-(R/S)-Carboxy-1-heptyl-4-(S/R)-(6-methoxyquinolin-4-yl)aminocarbonyl-oxypiperidine;

a compound of Examples [[18 to -36]] 18 to 36 from Table 1 as depicted below:

TABLE 1



Example	A-B	n	R ¹	D	<u>R³</u> R ₃	<u>R⁴</u> [[R ₄]]
18	CH ₂ CH ₂	1	CH ₃ O	C	CH ₂ CN	n-heptyl
19	CH(NH ₂)CH ₂	1	CH ₃ O	C	CH ₂ CN	n-heptyl
20	CH ₂ CH ₂	1	CH ₃ O	C	CH ₂ COOH	5-methylhexyl
21	CH(N ₃)CH ₂	1	CH ₃ O	C	CH ₂ CN	n-heptyl
22	CH ₂ CH ₂	1	CH ₃ O	C	CONH ₂	n-heptyl
23	CH ₂ CH ₂	1	CH ₃ O	C	CH ₂ COOH	n-hexyl
24	CO-CH₂ <u>COCH₂</u>	1	CH ₃ O	C	CH ₂ CN	n-heptyl

25	CH ₂ CH ₂	1	CH ₃ O	C	CH ₂ CH(CH ₃)COOH	n-heptyl
26	CH ₂ CH ₂	1	CH ₃ O	C	CH ₂ COOH	cinnamyl
27	CH ₂ CH ₂	1	CH ₃ O	C	CH ₂ COOH	3-phenylpropyl
28	CH(OH)CH ₂	1	CH ₃ O	C	CH ₂ COOH	n-heptyl
29	CH(NH ₂)CH ₂	1	CH ₃ O	C	CH ₂ COOH	n-heptyl
30	CH(OH)CH ₂	1	CH ₃ O	C	CH(OH)COOH	n-heptyl
31	CO-CH₂ COCH ₂	1	CH ₃ O	C	CH(OH)COOH	n-heptyl
32	CH ₂ CH(OH)	1	CH ₃ O	C	CH ₂ COOH	n-heptyl
33	NHCO	1	CH ₃ O	N	CH ₂ COOH	n-heptyl
34	CH ₂ CH ₂	1	OH	C	CH ₂ COOH	n-heptyl
35	NHCOO	0	CH ₃ O	C	CONH ₂	n-heptyl
36	oxirane	1	CH ₃ O	C	CH ₂ CN	n-heptyl

or a pharmaceutically acceptable derivative of any of the foregoing compounds.

22. (Cancelled).

23. (Currently amended) A pharmaceutical composition comprising a compound of formula (I) of claim 1, or a pharmaceutically acceptable derivative thereof wherein R³ is other than (C₁₋₆)alkoxycarbonyl; optionally substituted aminocarbonyl, CN or COOH, ~~or a pharmaceutically acceptable derivative thereof~~, and a pharmaceutically acceptable carrier.

24. (Cancelled).